

RESEARCH ARTICLE

UV Spectrophotometric Analysis of Apigenin in Topical Fungal Formulation containing Extract of *Leonotis nepetaefolia* (L) R. Br.

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Received: 26th December, 2022; Revised: 19th April, 2023; Accepted: 18th August, 2023; Available Online: 25th September, 2023

ABSTRACT

Fungal infections continue to endanger human health, and the problem is only becoming worse. Combination therapy may be an optional strategy for the treatment of invasive fungal illnesses, and the potential antifungal mechanisms provide new insights into the development of innovative antifungal medications. Numerous investigations have shown that combining plant extract showed significant antifungal activity. In the present work, a topical fungal formulation containing hydroalcoholic extract of *Leonotis nepetaefolia* (L) R.Br. (TFF) in form of a cream was estimated for apigenin. A technique has been created and validated using UV spectrophotometric analysis in order to evaluate the aforementioned drugs simultaneously in the formulation.

Keywords: Apigenin, Extract, Fungal, Topical formulation.

International Journal of Pharmaceutical Quality Assurance (2023); DOI: 10.25258/ijpqa.14.3.17

How to cite this article: Dwivedi S, Shidhaye S, Dwivedi A, Prachad S, Mishra I, Gangwal A, Kumar A. UV Spectrophotometric Analysis of Apigenin in Topical Fungal Formulation containing Extract of *Leonotis nepetaefolia* (L) R. Br. International Journal of Pharmaceutical Quality Assurance. 2023;14(3):561-562.

Source of support: Nil.

Conflict of interest: None

INTRODUCTION

There are numerous herbal medications that are frequently used to treat different fungi-related illnesses. Modern synthetic medications don't have a root-cause cure. However, herbal medicine has effective treatments for a variety of fungus problems.¹ *Leonotis nepetaefolia* (L) R.Br. (Barchibuti) is a plant commonly found in wild state. It is an annual herb belonging to the Lamiaceae family. Alkaloids, labdane diterpenes, flavonoids, and iridoid glycosides make up phytochemistry. Every portion of the plant has medical applications. According to claims, the plant can treat gynecological diseases, discomfort, inflammation, and microbial infections in addition to acting as a contraceptive.² Analytical method development is essential for the standardization of herbal formulation. There are many different herbal formulations on the market that patients can use, thus it is necessary to define their analytical parameters.³ The topical fungal formulation in cream was prepared using the hydroalcoholic extract of the selected plant and the apigenin content was estimated using UV spectrophotometric analysis.

MATERIAL AND METHODS

Material

Topical fungal formulation (TFF) in form of cream was prepared using the hydroalcoholic extract of *L. nepetaefolia* (L) R. Br. Flowers.^{4,5}

Methods (Estimation of Apigenin)

UV visible spectrophotometer model UV-1900 Shimadzu was used to apigenin in the formulation and hydroalcoholic extract of *L. nepetaefolia*. Accurately weighed (10 mg) apigenin was dissolved in methanol (100 mL) and made from the same different concentrations of 5/50 g/mL. The absorbance was measured at 335 nm. In 1-gm of TFF/extract was weighed and mixed with 6 volumes of denatured spirit. The same was filtered and was concentrated to get semisolid mass. The content was determined as a previously discussed method.

RESULTS AND DISCUSSION

The results obtained (Table 1 and Graph 1) indicate that it follows Beers law. R² was found to be 0.996, precision 0.397,

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International Journal of Pharmaceutical Quality Assurance

Scopus coverage years: 2011, from 2013 to Present

Publisher: Dr. Yashwant Research Labs Pvt. Ltd.

ISSN: 0975-9506

Subject area: (Pharmacology, Toxicology and Pharmaceutics: Pharmacology, Toxicology and Pharmaceutics (miscellaneous))

Source type: Journal

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